Dear Student Teacher,

I have undertaken a study entitled *A STUDY OF TEACHING EFFECTIVENESS, TEACHING APTITUDE AND ATTITUDE TOWARDS TEACHING MATHEMATICS OF PROSPECTIVE MATHEMATICS TEACHERS* for the partial fulfillment of the requirements of my Ph.D. in Education. So please fill in the following questionnaire and rating scales. Your answers will be used only for research purpose and they will be kept strictly confidential. Please answer all the questions, don’t leave any one.

*Thanking you for your cooperation,*

*With the best wishes,*

Guide : 

**Dr. D. Bhaskara Rao**  
M.Sc., M.A., M.A., M.Ed., Ph.D.  
Principal, R.V.R. College of Education, Guntur.

**M. Ravi Kumar**  
M.Sc., M.C.A., M.Ed.  
Dean, Faculty of Education, A.N.U., Guntur

Please fill in the following particulars. Please put a tick mark whenever necessary.

1. Name of the Student Teacher:

2. Name of the College :

3. Locality : Urban / Rural

4. Gender : Men / Woman

5. Educational Qualification : Graduation / Post-Graduation


7. Academic Achievement :

<table>
<thead>
<tr>
<th>10th Class</th>
<th>Intermediate</th>
<th>Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
   |            |              |            | (Only Group)
APPENDIX II

Preliminary form of the

TEACHING EFFECTIVENESS SCALE

Instructions

Dear Mathematics Teacher Educator / Mathematics Teacher

Given below are 54 statements related to teaching effectiveness of prospective mathematics teachers. Against each aspect of the teaching effectiveness scale, there are five boxes indicating the five alternatives of rating, viz., Very Good (VG), Good (G), Average (A), Below Average (BA) and Needs Improvement (NI). The purpose of this scale is to measure the teaching effectiveness of prospective mathematics teachers.

Please observe each statement of the teaching effectiveness scale carefully and decide whether it is essential for teaching effectiveness of prospective mathematics teacher or not. You are required to indicate important and unimportant statements according to their importance in contributing to teaching effectiveness by simply putting (✓) mark or (x) mark on the left side of each statement.

Your responses will be used for constructing a good teaching effectiveness scale. Hence, your cooperation is essential to complete this research successfully.

Thank you for your cooperation and help.

1. The student teacher stated the instructional objectives in terms of observable behaviours. [ ] [ ] [ ] [ ] [ ]
2. The student teacher tested the previous knowledge of the students by using suitable questions. [ ] [ ] [ ] [ ]
3. The student teacher motivated the students by using appropriate strategy. [ ] [ ] [ ] [ ] [ ]
4. The student teacher arranged, presented and discussed the teaching points in a logical way. [ ] [ ] [ ] [ ] [ ]
5. The student teacher used suitable methods to teach the concept or theorem. [ ] [ ] [ ] [ ] [ ]
6. The student teacher used appropriate method to teach the problem. [ ] [ ] [ ] [ ] [ ]
7. The student teacher showed mastery of the subject. [ ] [ ] [ ] [ ] [ ]
8. The content material presented in the class room was accurate and appropriate.

9. The content material presented was to the level of comprehension of the students.

10. Divergent view points were presented to stimulate thinking while teaching problems.

11. The student teacher enabled students understand the problem.

12. The student teacher followed the lesson plan closely.

13. The student teacher managed well the class time.

14. Applications in daily life were quoted where ever necessary.

15. The purpose of studying the topic was stated at the beginning of the class.

16. Simple, interesting and relevant examples were used.

17. New terms, concepts and principles were defined.

18. Definitions of new terms were reiterated for drilling.

19. Important points were stressed.

20. The pace of presenting the concepts was adjusted according to the response of the students.

21. New ideas were linked to familiar ones.

22. The student teacher set the ground rules for questioning and answering.

23. Student teacher addressed questions to individual students as well as the group at large.

24. The student teacher gave some time after questioning to allow students to think of a suitable answer.

25. The student teacher framed questions well in terms of grammatical correctness, relevancy, conciseness and specificity.

26. The student teacher repeated the questions whenever necessary so that the entire class could hear and understand.

27. The student teacher encouraged students to answer difficult questions by providing cues or by using prompting questions.

28. The student teacher used refocusing technique if a student’s answer was incomplete.

29. The student teacher asked students to clarify the answer whenever necessary by asking probing questions.

30. The Student teacher maintained eye contact with the class.
31. The facial and body movements of the student teacher were consistent.  
32. The student teacher listened carefully to student’s comments and questions.  
33. The student teacher was quick in reacting to doubts of students.  
34. The student teacher appears to enjoy teaching.  
35. The student teacher greeted students with a bit of small talk.  
36. The student teacher maintained eye contact with as many students as possible.  
37. The student teacher set ground rules for student participation in learning process.  
38. The student teacher encouraged student’s questions.  
39. The student teacher was able to respond to student’s doubts satisfactorily.  
40. The student teacher’s voice was clear and understandable.  
41. The student teacher’s voice could be easily heard.  
42. The mode of talking of the student teacher was neither too formal nor too casual.  
43. The student teacher raised or lowered his/her voice for emphasis and variety.  
44. The rate of speed of speaking was just right.  
45. The student teacher wrote legibly on the black board.  
46. The student teacher focused the relevant matter on the black board.  
47. The student teacher organised well the black board space.  
48. The student teacher used the black board systematically.  
49. The student teacher had drawn diagrams/graphs/constructions accurately and neatly.  
50. The teaching aid used (chart, model, etc.) was accurate, proportionate and neat.  
51. The teaching aid used was relevant to the topic.  
52. Sufficient time allowed for the display of each teaching aid.  
53. The student teacher handled the teaching aid skillfully without any fumbling.  
54. The student teacher got student participation whenever necessary.
TEACHING EFFECTIVENESS SCALE USED IN THE PILOT STUDY

Instructions

Dear Mathematics Teacher Educator / Mathematics Student Teacher

Given below are 33 aspects related to teaching effectiveness of prospective mathematics teachers. You have to rate mathematics student teachers on each of these aspects. Against each aspect of the teaching effectiveness scale, there are five boxes indicating the five alternatives of your rating, viz., Very Good (VG), Good (G), Average (A), Below Average (BA) and Needs Improvement (NI).

Please observe the teaching of the prospective mathematics teacher carefully and give your rating on each aspect by recording your response in the relevant box against the statement by putting a ‘✓’ mark. You are also required to give your rating on the overall teaching effectiveness at the end.

If the prospective mathematics teacher is . . .

- Very Good in that aspect                  Put ‘✓’ mark in the first box (VG)
- Good in that aspect                          Put ‘✓’ mark in the second box (G)
- Average in that aspect                        Put ‘✓’ in the third box (A)
- Below average in that aspect                 Put ‘✓’ in the fourth box (BA)
- Needs Improvement in that aspect             Put ‘✓’ in the fifth box (NI)

When you are rating the prospective mathematics teacher on a particular aspect of teaching, your rating should be based only on that aspect you are considering. Other aspects of teaching of the prospective mathematics teacher should not be taken into account.

Your ratings will be used only for research purpose and they will be kept strictly confidential. Hence, please give correct ratings and cooperate in successfully completing this research.

Thank you for your wholehearted cooperation.
1. The student teacher tested the previous knowledge of the students by using suitable questions.

2. The student teacher motivated the students by using appropriate strategy.

3. The student teacher arranged, presented and discussed the teaching points in a logical way.

4. The student teacher used suitable methods to teach the concept.

5. The content material presented in the classroom was accurate and appropriate.

6. The content material presented was to the level of comprehension of the students.

7. The student teacher used appropriate method to teach the problem.

8. Divergent view points were presented to stimulate thinking while teaching problems.

9. The purpose of studying the topic was stated at the beginning of the class.

10. Simple, interesting and relevant examples were used.

11. New terms, concepts and principles were defined.

12. Definitions of new terms were reiterated for drilling.

13. Important points were stressed.

14. The pace of presenting the concepts was adjusted according to the response of the students.

15. New ideas were linked to familiar ones.

16. Student teacher addressed questions to individual students as well as the group at large.

17. The student teacher gave some time after questioning to allow students to think of a suitable answer.

18. The student teacher framed questions well in terms of grammatical correctness, relevancy, conciseness and specificity.

19. The student teacher encouraged students to answer difficult questions by providing cues or by using prompting questions.

20. The student teacher maintained eye contact with as many students as possible.
21. The facial and body movements of the student teacher were consistent.
22. The student teacher was quick in reacting to doubts of students.
23. The student teacher set ground rules for student participation in learning process.
24. The student teacher encouraged Student’s questions.
25. The student teacher was able to respond to student’s doubts satisfactorily.
26. The student teacher’s voice was clear and understandable.
27. The student teacher raised or lowered his/her voice for emphasis and variety.
28. The rate of speed of speaking was just right.
29. The student teacher focused the relevant matter on the black board.
30. The student teacher organised well the black board space.
31. The student teacher used the black board systematically.
32. The teaching aid used was relevant to the topic.
33. The student teacher got student participation whenever necessary.

Overall teaching effectiveness of the prospective mathematics teacher.
APPENDIX IV

TEACHING EFFECTIVENESS SCALE USED IN THE FINAL STUDY

Instructions

Dear Mathematics Teacher Educator,

Given below are some aspects related to teaching effectiveness of prospective mathematics teachers. You have to rate your mathematics student teachers on each of these aspects. Against each aspect of the teaching effectiveness scale, there are five boxes indicating the five alternatives of your rating, viz., Very Good (VG), Good (G), Average (A), Below Average (BA) and Needs Improvement (NI).

Please observe the teaching of the prospective mathematics teacher carefully and give your rating on each aspect by recording your response in the relevant box against the statement by putting a ‘✓’ mark.

If the prospective mathematics teacher is ...

- **Very Good in that aspect** Put ‘✓’ mark in the first box (VG)
- **Good in that aspect** Put ‘✓’ mark in the second box (G)
- **Average in that aspect** Put ‘✓’ in the third box (A)
- **Below average in that aspect** Put ‘✓’ in the fourth box (BA)
- **Needs Improvement in that aspect** Put ‘✓’ in the fifth box (NI)

When you are rating the prospective mathematics teacher on a particular aspect of teaching, your rating should be based only on that aspect you are considering. Other aspects of teaching of the prospective mathematics teacher should not be taken into account.

Your ratings will be used only for research purpose and they will be kept strictly confidential. Hence, please give correct ratings and cooperate in successfully completing this research.

Thank you for your wholehearted cooperation.
1. The student teacher tested the previous knowledge of the students by using suitable questions.
2. The student teacher motivated the students by using appropriate strategy.
3. The student teacher arranged, presented and discussed the teaching points in a logical way.
4. The student teacher used suitable methods to teach the concept.
5. The content material presented in the classroom was accurate and appropriate.
6. The content material presented was to the level of comprehension of the students.
7. The student teacher used appropriate method to teach the problem.
8. Divergent view points were presented to stimulate thinking while teaching problems.
9. The purpose of studying the topic was stated at the beginning of the class.
10. Simple, interesting and relevant examples were used.
11. New terms, concepts and principles were defined.
12. Definitions of new terms were reiterated for drilling.
13. Important points were stressed.
14. The pace of presenting the concepts was adjusted according to the response of the students.
15. New ideas were linked to familiar ones.
16. Student teacher addressed questions to individual students as well as the group at large.
17. The student teacher gave some time after questioning to allow students to think of a suitable answer.
18. The student teacher framed questions well in terms of grammatical correctness, relevancy, conciseness and specificity.
19. The student teacher encouraged students to answer difficult questions by providing cues or by using prompting questions.
20. The student teacher maintained eye contact with as many students as possible.
21. The facial and body movements of the student teacher were consistent.

22. The student teacher was quick in reacting to doubts of students.

23. The student teacher set ground rules for student participation in learning process.

24. The student teacher encouraged Student’s questions.

25. The student teacher was able to respond to student’s doubts satisfactorily.

26. The student teacher’s voice was clear and understandable.

27. The student teacher raised or lowered his/her voice for emphasis and variety.

28. The rate of speed of speaking was just right.

29. The student teacher focused the relevant matter on the black board.

30. The student teacher organised well the black board space.

31. The student teacher used the black board systematically.

32. The teaching aid used was relevant to the topic.

33. The student teacher got student participation whenever necessary.
APPENDIX V

English Version of the

TEACHING APTITUDE TEST USED IN THE FINAL STUDY

Instructions

Some statements are given below. Please read them carefully. These statements are followed by three types of responses – Agree (A), Doubtful or Undecided (UD) and Disagree (DA). If you agree to a given statement then put a tick (✓) mark in the box which is given against the statement. Follow the same procedure of responding if you disagree or are doubtful.

There is no right or wrong answer. So, please answer all the items without leaving any one. Your responses will be used only for research purpose and will be kept strictly confidential, as such respond without any hesitation.

A  UD  DA

1. In order to give right and proper education to the pupils, it is essential for the teacher to know the main problems of the pupils and to help them in solving. ☐ ☐ ☐

2. School administration depends on the cooperation of the teachers. ☐ ☐ ☐

3. It is said that, “If teacher provides 100gms of love to his pupils then he will attain one kilogram of love from his pupils” A teacher should keep in mind this statement while teaching. ☐ ☐ ☐

4. ‘Teacher and pupil both are an inseparable part of the society’. Keeping this in His mind, a good teacher should teach. ☐ ☐ ☐

5. The teacher should be aware of the problems of the Nation and as well as cooperate in solving them. ☐ ☐ ☐

6. ‘The welfare of not only the society and the Nation but the whole world is based on the feeling of cooperation. The teacher should keep this in mind while teaching. ☐ ☐ ☐

7. School also like a family. As such in order to make it decent, not only the pupils but the teacher’s cooperation is also essential. ☐ ☐ ☐

8. The teacher’s cooperative behaviour with others, expands his knowledge. ☐ ☐ ☐

9. Success and failure in the examination is the result of the labour of both student and the teacher. The teacher should keep this in his mind while teaching. ☐ ☐ ☐

10. Teacher should cooperate with the parents in making student an ideal citizen. ☐ ☐ ☐
11. Besides teaching the pupils their syllabus, the teacher should also develop such feelings in them that they may understand themselves and try to fulfill their duties.

12. The teacher should praise the good deeds of the pupils and also criticise their unworthy acts.

13. The teacher should have patience towards the emotional reactions of the pupils and should also try to understand them.

14. The teacher should have intimate relations with the pupils, so that the pupils may present their problems before them without any hesitation and as well as seek their advice to solve them.

15. The teacher should have the feeling of kindness in his behaviour towards the pupils.

16. The teacher should have so much tolerance that if the pupils criticise them, they may hear it and piqued their curiosity.

17. The teacher should devote his maximum time to the pupils according to their needs.

18. The teacher should neither punish too much to his pupils nor be too liberal with them.

19. The teacher’s teaching method should be in accordance with the individual differences of the pupils.

20. The teacher should be impartial and honest in student’s assessment and do so keeping in mind the pupils’ abilities.

21. Teachers should keep in mind the various interests of their pupils while teaching.

22. Teacher should not spend much of his time in politics etc. but should spend most of his time in teaching.

23. Besides teaching, teacher should also take interest in other extra-curricular activities of the pupils.

24. Teacher should be aware of the new teaching methods.

25. Teachers should not make his students book-worm but should give them such education that pupils may have both theoretical as well as practical knowledge.

26. Teacher should have a library of his own for teaching at home.

27. Besides personal aims teacher should also keep in mind the social aims.

28. Besides solving the queries related to the syllabus, the teachers should also solve the other queries and curiosity of the students.
29. Teacher should take active part in educational symposium and seminars etc.

30. The education should be according to the time. Keeping this, in his mind, the teacher should draw the attention of Government and the educational authorities towards the defects of the present education system.

31. ‘The pupils very much depend on the teacher’. Keeping this in his mind, the teacher should spend his time in their proper social development.

32. Teacher is considered as the source of motivation. Hence teacher should carry over his promise properly.

33. Teacher should not take any decision without thinking and after taking decision should remain firm in it.

34. All pupils are equal for the teacher. Hence the teacher should not behave partially with the pupils.

35. The teacher should give marks to the pupils in the examination on the basis of his work performance and not on the basis of his approach.

36. The teacher should maintain such discipline in the class that the pupils develop that this teacher behaves lawfully and impartially.

37. The teacher should not pay attention to only one student but should pay attention to all the students.

38. The teacher should act in an organised way at home also.

39. A teacher should not hesitate in revealing the qualities and defects of the pupils in front of them.

40. A teacher should accept his defects without any hesitation and should also try to remove them.

41. The teacher should not demand gifts etc. as his labour from the pupils.

42. The teacher should not do any illegal thing at any cost.

43. The teacher should not be shy but be bold in doing legal things.

44. The teacher should know that he will be called on an ideal teacher on the basis of moral values.

45. Teacher should show his honesty and self-sufficiency in evaluation of the students.

46. When pupils raise agitation or strike, then teachers should deal with patience.

47. In order to maintain proper discipline in the classroom, it is essential that the teacher should himself be disciplined.
48. Character is above all. As such a teacher should present an ideal of his character before his pupils.

49. ‘Duty is the key of success’. As such, a teacher should present an ideal of his dutifulness in front of his pupils.

50. A teacher should behave politely so that his students may take a lesson from him.

51. Pupils are rude by nature. Hence a teacher should not pay much attention on their defects rather they should pay attention on their qualities and also motivate them for good deeds.

52. If a teacher works according to the well established plans, then his several educational problems may get solved.

53. A teacher should teach in such interesting manner that the pupils may not feel monotony in the class.

54. A teacher should hope that in future, his pupils will maintain good relations with him.

55. A teacher should keep in mind the basic theory of Gita.

56. A teacher should hope that in future his pupils will glorify him.

57. Environment may be new or old, if a teacher desires, then he can make it according to his convenience.

58. Teacher should not only pay attention on teaching–learning but should also maintain a pleasant atmosphere.

59. A teacher should hope that knowledge given by him will help his pupils not only solving the educational problems but also the problems of practical life.

60. A teacher should always be in happy mood and try to make his pupils also happy with his behaviour.

61. A teacher should also motivate his pupils to study themselves besides teaching them himself.

62. Enthusiasm and concentration are the key to success. As such a teacher should motivate the pupils for it by placing an ideal himself.

63. A teacher should develop new energy and power in the pupils.

64. If a teacher wishes, then he can learn a good deal from his students. As such a teacher should not have an hesitation in his respect.

65. Teacher is considered as a source of motivation for the pupils. As such a teacher should place an ideal before the pupils.
66. Not only environment of the class, but the environment of the whole school depends on the teacher. As such a teacher should take active part in.

67. Education aims at the all-round development of the personality.

68. Besides behaving friendly with the pupils, a teacher should also behave friendly with others and them with his knowledge.

69. From social point of view a teacher occupies a significant place in society. As such a teacher should take a lead in doing new things.

70. A teacher should himself do his work in time and motivate his pupils also to do their work in time.

71. However the pupils may be, a teacher should maintain proper adjustment with them.

72. Whatever decision a teacher takes, it should not be based on prejudice rather it should be based on the reality of facts.

73. However may be the situation, a teacher should keep his nature normal.

74. A teacher should try to make his thoughts and behaviour dynamic and creative.

75. A teacher should make his personality so impressive that not only the pupils and the parents may be impressed but other people are also impressed.

76. There is a lesson in each experience. As such a teacher should try to take lesson from each experience of life.

77. A teacher should include originality in his subject matter and as well accept the original thoughts of pupils without any hesitation.

78. A teacher’s personality should not be rigid rather it should be dynamic.

79. Difficulties are common in life. It is not a appropriate for a teacher to stop teaching on being disturbed by them.

80. A teacher should be able to express his views to others in proper way and in simple language so that people may understand it easily.
APPENDIX VI

Telugu Version of the TEACHING APTITUDE TEST USED IN THE FINAL STUDY

A UD DA

1. తాము సమాధానం అందించండి ఎందుకంటే, మాత్రము నిలసించండి, ఇది తమండప ప్రతిపటి తెలియడం లభించింది.

2. మాత్రము సమాధానం అంతించండి ఎందుకంటే మాత్రము నిలసించండి.

3. “మాత్రము సమాధానం నిలసినం 100 జొన్తులు ఉంటుంది అంచిన ఒక 1 జొన్తు. మాత్రము సమాధానం నిలసినం సమాధానం” అనే జాబితా నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి.

4. ఇది మనాం ప్రశ్నాంశాలు, “మాత్రము సమాధానం నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి” అనే జాబితా నిలసించండి.

5. ఇది మనాం ప్రశ్నాంశాలు నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి.

6. ఇది మనాం ప్రశ్నాంశాలు నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి.

7. మాత్రము సమాధానం నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి.

8. మాత్రము సమాధానం నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి.

9. ఇది మనాం ప్రశ్నాంశాలు నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి.

10. ఇది మనాం ప్రశ్నాంశాలు నిలసించండి ఎందుకంటే మాత్రము సమాధానం నిలసించండి.
32. नवरूज निवासी संस्थान के वर्तमान कार्यक्रम अनुसार दर्शकारीपत्रों का स्वागत हेतु एवं नवरूज संस्थान के नये निदेशक का स्वागत हेतु.

33. जुलाई के बाद नवरूज संस्थान के प्रशिक्षण के अनुसार. नवरूज संस्थान के प्रशिक्षण के लिए स्वागत हेतु.

34. अनोखी उपकारिता सर्वे विज्ञापन, जो के रूप में विभिन्न प्रकार के हस्तियों के निदेशक के लिए उपलब्ध।

35. अनोखी उपकारिता सर्वे के माध्यम से अनोखा हस्तियों का निदेशक का निदेशक का स्वागत हेतु.

36. “अनोखी उपकारिता सर्वे विज्ञापन का स्वागत” के बजाय नवरूज संस्थान के नये निदेशक के लिए स्वागत हेतु.

37. नवरूज संस्थान के नये निदेशक का स्वागत हेतु नवरूज संस्थान के नये निदेशक के लिए.

38. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

39. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

40. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

41. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

42. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

43. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

44. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

45. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

46. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

47. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

48. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

49. ‘नवरूज निर्माण और कला का स्वागत’. नवरूज निर्माण और कला का स्वागत हेतु नवरूज के नये निदेशक के नये निदेशक के लिए.

50. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

51. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.

52. अनोखी उपकारिता सर्वे के अनुसार नवरूज के नये निदेशक के नये निदेशक के लिए.
53. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
54. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
55. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
56. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
57. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
58. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
59. “అయితే అద్భుతం వ్యాఖ్యాత వ్యక్తి రెండు విధానంలో ప్రత్యేకం ఉండాలి తరువాత సమయం చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం” అనే మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
60. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
61. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
62. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
63. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
64. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
65. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
66. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
67. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
68. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
69. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
70. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
71. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
72. మిత్రాన్ని మరియు గదులు అవధి చేయడం వల్ల మిత్రాన్ని అయోగ్యంగా నడిచడం అవశ్యం. □ □ □
APPENDIX VII

English Version of the
ATTITUDE TOWARDS TEACHING MATHEMATICS SCALE
USED IN THE PILOT STUDY

Instructions

Given below are some statements about the teaching of mathematics. Each statement is followed by three alternatives, viz., Agree (A), Undecided (UD), Disagree (D) and you agree with some statements, disagree with some and undecided with the others. Let your own experience determine your response with statements.

Against each statement of the attitude scale, there are three boxes indicating the three alternatives of your response Agree (A), Undecided (UD) and Disagree (DA). Please read each statement carefully and record your answer in the relevant box against the statement by putting a ‘✓’ mark.

If you ——

Agree with the statement Put ‘✓’ mark in the first box (A)
Undecided with the statement Put ‘✓’ mark in the second box (UD)
Disagree with the statement Put ‘✓’ mark in the third box (DA)

There are no right and wrong answers for these statements and what you feel about teaching mathematics is the right answer. So, please give your responses to all the statements freely without any hesitation. Your responses will be used for research work, and they will be strictly kept confidential.

Please cooperate and make this research a success.

A  UD  DA

1. I can select appropriate teaching strategies to attain the objectives of teaching different mathematics content categories.  
3. I think I am good at explaining the content of my mathematics lesson.  
4. I like to have a thorough planning when I have to teach mathematics.  
5. I feel happy when pupils ask me questions while teaching mathematics.  
6. Mathematics teachers are to be preferred as members of school management committee.  
7. I am confident that I can motivate the pupils towards learning mathematics.  
8. I strive to be successful at teaching mathematics.
9. I feel active during my Mathematics teaching.
10. Mathematics teaching develops problem solving ability in students.
11. I try my level best to adjust my teaching mathematics according to the needs of learners.
12. I can plan my mathematics lesson according to the nature of subject matter.
13. I want to be systematic in my mathematics teaching.
14. Mathematics teaching provides a good platform for serving community.
15. I feel that I can identify learning difficulties of my pupils in mathematics.
16. I can provide appropriate remedial instruction to enable pupils to overcome their learning difficulties in mathematics.
17. I can make use of number of teaching skills effectively during my mathematics teaching.
18. I can evaluate the effectiveness of my mathematics teaching in terms of learner’s outcomes.
19. There are many benefits in teaching mathematics other than money.
20. I prefer to teach easy topics in mathematics.
21. I feel I can evaluate pupils learning using appropriate techniques.
22. I feel to secure pupils attention in my mathematics class.
23. If a teacher had to live his life again he should prefer to teach mathematics.
24. I can make pupils to raise number of questions on their own related to mathematics lesson.
25. I felt good experience in my mathematics macro teaching.
26. Correction work is the worst part of a mathematics teacher’s job.
27. I am confident that I can teach any topic in mathematics.
28. The mathematics club in our college is useful to me in teaching mathematics.
29. I feel difficulty in the preparation of achievement test.
30. Mathematics teaching is the noblest of all the professions.
31. I think mathematics teaching is enjoyable.
32. We are celebrating the days of great mathematics in our college.
33. I like teaching problems in mathematics.
34. I use teaching aids in teaching mathematics.
35. Mathematics teaching is one of the greatest stimulants to mental activity.
36. I feel difficult to choose appropriate method in teaching a mathematics topic.
37. I feel difficult to prepare teaching aids suitable to my mathematical lesson.
38. I am using more illustrations in my teaching.
39. A mathematics teacher can influence many generations through his teaching.
40. I follow appropriate steps in preparing the lesson plan.
41. I was satisfied with the results of students in achievement test.
42. I feel that lecture-cum-demonstration method is not useful in teaching mathematics lesson in class room.
43. Mathematics teaching is an activity which requires mediocre ability.
44. I try to use psychological principles while teaching mathematics.
45. I like teaching Mathematics than other subjects.
46. I am confident that I can plan my Mathematics lesson according to the needs of learners.
47. I try to improve my knowledge in mathematics by extra reading.
48. If teaching of mathematics is not effective, our nation will not progress.
49. The school atmosphere was not favourable in the school which I selected for my macro teaching.
50. I will strive to improve my mathematics teaching skills.
51. Effective mathematics teaching can exist only in imagination.
52. There is a scope for wastage of one’s time in mathematics teaching.
53. I feel difficult to give remedial measures to the slow learners.
54. Mathematics teaching never gets monotonous.
55. As a teacher I dislike to read and explain the biographies of great mathematicians.
56. Mathematics teaching does not develop logical thinking of students.

57. I derive more joy and happiness in teaching logical proofs of theorems.

58. Mathematics teaching should not be recommended to any intelligent students.

59. One should be proud of being a mathematics teacher.

60. Mathematics teaching keeps one young.

---

I like teaching mathematics

- Yes
- No
APPENDIX VIII

**Telugu Version of the ATTITUDE TOWARDS TEACHING MATHEMATICS SCALE USED IN THE PILOT STUDY**

| 1. | మనిషుడు విద్యాభ్యాస రీతి కంటే అనుమతిపడి తపస్సు చేస్తానికి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 2. | కార్యకృతి రీతి ప్రతిస్పాదించడం మాపి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 3. | కార్యకృతి ప్రతిస్పాదించడం మాపి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 4. | కార్యకృతి ప్రతిస్పాదించడం మాపి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 5. | కార్యకృతి ప్రతిస్పాదించడం మాపి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 6. | కార్యకృతి ప్రతిస్పాదించడం మాపి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 7. | పాఠశాలలో కార్యకృతి ప్రతిస్పాదించడం వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 8. | కార్యకృతి ప్రతిస్పాదించడం మాపి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 9. | కార్యకృతి ప్రతిస్పాదించడం మాపి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 10. | కార్యకృతి ప్రతిస్పాదించడం మాపి వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 11. | పాఠశాలలో కార్యకృతి ప్రతిస్పాదించడం వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
| 12. | పాఠశాలలో కార్యకృతి ప్రతిస్పాదించడం వేల కాకుండా నివిధం ప్రతిస్పాదించి వచ్చింది. | A | UD | DA |
APPENDIX IX

English Version of the

ATTITUDE TOWARDS TEACHING MATHEMATICS SCALE

USED IN THE FINAL STUDY

Instructions

Given below are 40 statements about the teaching of mathematics. Each statement is followed by three alternatives, viz., Agree (A), Undecided (UD), Disagree (D) and you agree with some statements, disagree with some and undecided with the others. Let your own experience determine your response with statements.

Against each statement of the attitude scale, there are three boxes indicating the three alternatives of your response Agree (A), Undecided (UD) and Disagree (DA). Please read each statement carefully and record your answer in the relevant box against the statement by putting a ‘✓’ mark.

If you ——

Agree with the statement         Put ‘✓’ mark in the first box (A)
Undecided with the statement      Put ‘✓’ mark in the second box (UD)
Disagree with the statement       Put ‘✓’ mark in the third box (DA)

There are no right and wrong answers for these statements and what you feel about teaching mathematics is the right answer. So, please give your responses to all the statements freely without any hesitation. Your responses will be used for research work, and they will be kept strictly confidential.

Please cooperate and make this research a success.
1. I can select appropriate teaching strategies to attain the objectives of teaching different mathematics content categories.

2. I think I am good at explaining the content of my mathematics lesson.

3. I like to have a thorough planning when I have to teach mathematics.

4. I feel happy when pupils ask me questions while teaching mathematics.

5. I am confident that I can motivate the pupils towards learning mathematics.

6. I strive to be successful at teaching mathematics.

7. I feel active during my Mathematics teaching.

8. I try my level best to adjust my teaching mathematics according to the needs of learners.

9. I can plan my mathematics lesson according to the nature of subject matter.

10. I want to be systematic in my mathematics teaching.

11. I feel that I can identify learning difficulties of my pupils in mathematics.

12. I can provide appropriate remedial instruction to enable pupils to overcome their learning difficulties in mathematics.

13. I can make use of number of teaching skills effectively during my mathematics teaching.

14. I can evaluate the effectiveness of my mathematics teaching in terms of learner’s outcomes.

15. I prefer to teach easy topics in mathematics.

16. I feel I can evaluate pupils learning using appropriate techniques.

17. I feel to secure pupils attention in my mathematics class.

18. I can make pupils to raise number of questions on their own related to mathematics lesson.

19. I felt good experience in my mathematics macro teaching.

20. I am confident that I can teach any topic in mathematics.

21. The mathematics club in our college is useful to me in teaching mathematics.

22. I feel difficulty in the preparation of achievement test.

23. I think mathematics teaching is enjoyable.

24. We are celebrating the days of great mathematics in our college.

25. I like teaching problems in mathematics.
26. I use teaching aids in teaching mathematics.

27. I feel difficult to choose appropriate method in teaching a mathematics topic.

28. I feel difficult to prepare teaching aids suitable to my mathematical lesson.

29. I am using more illustrations in my teaching.

30. I follow appropriate steps in preparing the lesson plan.

31. I was satisfied with the results of students in achievement test.

32. I feel that lecture-cum-demonstration method is not useful in teaching mathematics lesson in class room.

33. I try to use psychological principles while teaching mathematics.

34. I like teaching mathematics than other subjects.

35. I am confident that I can plan my mathematics lesson according to the needs of learners.

36. I try to improve my knowledge in mathematics by extra reading.

37. The school atmosphere was not favourable in the school which I selected for my macro teaching.

38. I will strive to improve my mathematics teaching skills.

39. I feel difficult to give remedial measures to the slow learners.

40. As a teacher I dislike to read and explain the biographies of great mathematicians.
APPENDIX X

Telugu Version of the ATTITUDE TOWARDS TEACHING MATHEMATICS SCALE USED IN THE FINAL STUDY

పాతనావస్తవం:

కాబట్టి బాధ్యం ఉంది దృశ్యాలీక్రమంలో మన్నము ప్రశ్నలను మాదిరి చేయడానికి మనం పిలుచుకుంటాం. ఇది తక్కువ ఎంటర్నయా తయారీవంతసాగిన కార్యం. అందుకే మనం మనం పడింది ఉంటాం. మనం తమ ప్రతి సాధనాన్ని మన పాఠశాలలో ప్రశ్నలను ప్రత్యేకంగా ప్రాంతాన్ని మనం పడింది ఉంటాం. అందుకే మనం పడింది ఉంటాం. మనం తమ ప్రతి సాధనాన్ని మన పాఠశాలలో ప్రశ్నలను ప్రత్యేకంగా ప్రాంతాన్ని మనం పడింది ఉంటాం. అందుకే మనం పడింది ఉంటాం. మనం తమ ప్రతి సాధనాన్ని మన పాఠశాలలో ప్రశ్నలను ప్రత్యేకంగా ప్రాంతాన్ని మనం పడింది ఉంటాం.

A UD DA

1. మనం కనుగొనండి మేటస్పాన్ సేవలు ఉపయోగించిన మూలాదానికి విద్యార్థుల భావాలు ఉంది. ఫోటోగ్రఫిక్యూ.

2. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎస్సేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

3. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎసేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

4. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎసేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

5. మనం కనుగొనండి మేటస్పాన్ సేవలు ఉపయోగించిన మూలాదానికి విద్యార్థుల భావాలు ఉంది. ఫోటోగ్రఫిక్యూ.

6. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎసేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

7. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎసేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

8. మనం కనుగొనండి మేటస్పాన్ సేవలు ఉపయోగించిన మూలాదానికి విద్యార్థుల భావాలు ఉంది. ఫోటోగ్రఫిక్యూ.

9. మనం కనుగొనండి మేటస్పాన్ సేవలు ఉపయోగించిన మూలాదానికి విద్యార్థుల భావాలు ఉంది. ఫోటోగ్రఫిక్యూ.

10. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎసేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

11. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎసేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

12. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎసేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

13. కాబట్టి ఒక్కోసార్ విద్యార్థు మన్నము ఎసేమెంటు మనది అనే పాఠశాలలో ఉంటుందన్నాం.

ఫోటోగ్రఫిక్యూ.
## APPENDIX XI

### LIST OF SAMPLE COLLEGES OF EDUCATION

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of the College of Education</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A.N.G.R. College of Education</td>
<td>Chilumuru</td>
</tr>
<tr>
<td>2</td>
<td>Al-Momin College of Education</td>
<td>Podili</td>
</tr>
<tr>
<td>3</td>
<td>Alfa College of Education</td>
<td>Podili</td>
</tr>
<tr>
<td>4</td>
<td>A.N.R. College of Education</td>
<td>Gudivada</td>
</tr>
<tr>
<td>5</td>
<td>Chaitanya College of Education</td>
<td>Markapur</td>
</tr>
<tr>
<td>6</td>
<td>Dr. K.S.P.R. College of Education</td>
<td>Narasaraopet</td>
</tr>
<tr>
<td>7</td>
<td>Gupta College of Education</td>
<td>Tenali</td>
</tr>
<tr>
<td>8</td>
<td>G.V. &amp; A.D.S.L. College of Education</td>
<td>Ongole</td>
</tr>
<tr>
<td>9</td>
<td>Montessori College Of Education</td>
<td>Vijayawada</td>
</tr>
<tr>
<td>10</td>
<td>Nova College of Education</td>
<td>Jupudi</td>
</tr>
<tr>
<td>11</td>
<td>Priyanka College of Education</td>
<td>Ongole</td>
</tr>
<tr>
<td>12</td>
<td>R.V.R. College of Education</td>
<td>Guntur</td>
</tr>
<tr>
<td>13</td>
<td>Shams-Ul-Uloom College of Education</td>
<td>Podili</td>
</tr>
<tr>
<td>14</td>
<td>Sri Padmavathi Mahila College of Education</td>
<td>Machilipatnam</td>
</tr>
<tr>
<td>15</td>
<td>St. Mary’s College of Education</td>
<td>Podili</td>
</tr>
<tr>
<td>16</td>
<td>St. Peter’s &amp; G. Krishna College of Education</td>
<td>Burripalem</td>
</tr>
<tr>
<td>17</td>
<td>Vikas College of Education</td>
<td>Vissannapeta</td>
</tr>
<tr>
<td>18</td>
<td>Vivekananda College of Education</td>
<td>Kandukur</td>
</tr>
</tbody>
</table>